What is claimed is:

1. A machining method for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

welding the joining surfaces of the plates around entire periphery of the fluid channel grooves, thereby joining the plates.

2. The machining method of claim 1, further comprising:

welding the joining surfaces of the plates, by friction stir welding, around entire periphery of the fluid channel grooves, thereby joining the plates.

3. An integrated piping plate for use in a fuel cell power generation system, the integrated piping plate being composed of two or more plates joined together, and in which

an instrument and a component constituting the fuel cell power generation system are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

the integrated piping plate is provided singly, or a plurality of the integrated piping plates are provided.

4. The machining method of claim 1, further comprising the steps of:

forming grooves for weld grooves in the plates so as to extend along entire periphery of the fluid channel grooves; and

successively welding the grooves for the weld grooves to weld the joining surfaces of the plates around the entire periphery of the fluid channel grooves, thereby joining the plates.

5. A machining apparatus for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or

the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

weld groove machining means for forming grooves for weld grooves in the plates so as to extend along entire periphery of the fluid channel grooves; and

welding means which, in succession to machining of the grooves for the weld grooves by the weld groove machining means, welds the grooves for the weld grooves to weld the joining surfaces of the plates around the entire periphery of the fluid channel grooves, thereby joining the plates.

6. Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and

comprising:

plate supply means for supplying the plates having the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, formed therein beforehand;

weld groove machining means for forming grooves for weld grooves in the plates, which have been supplied by the plate supply means, so as to extend along entire periphery of the fluid channel grooves; and

welding means which, in succession to machining of the grooves for the weld grooves by the weld groove machining means, welds the grooves for the weld grooves to weld the joining surfaces of the plates around the entire periphery of the fluid channel grooves, thereby joining the plates.

7. Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates;

machining means for forming the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, in the plates supplied by the plate supply means;

weld groove machining means for forming grooves for weld grooves in the plates, which have been machined by the machining means, so as to extend along entire periphery of the fluid channel grooves; and

welding means which, in succession to machining of the grooves for the weld grooves by the weld groove machining means, welds the grooves for the weld grooves to weld the joining surfaces of the plates around the entire periphery of the fluid channel grooves, thereby joining the plates.

8. A machining apparatus for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

friction stir welding means for welding the joining surfaces of the plates around entire periphery of the fluid channel grooves, thereby joining the plates.

9. Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates having the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, formed therein beforehand; and

friction stir welding means for welding the joining surfaces of the plates, which have been supplied by the plate supply means, around entire periphery of the fluid channel grooves, thereby joining the plates.

10. Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in

which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates;

machining means for forming the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, in the plates supplied by the plate supply means; and

friction stir welding means for welding the joining surfaces of the plates, which have been machined by the machining means, around entire periphery of the fluid channel grooves, thereby joining the plates.

11. The machining method of claim 1, 2 or 4, further comprising:

performing numerical control as tracer means for machining.

12. The machining apparatus of claim 5 or 8, further comprising:

control means for performing numerical control as tracer means for machining.

13. The machining equipment of claim 6, 7, 9 or 10, further comprising:

control means for performing numerical control as tracer means for machining.

14. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

the integrated piping plate is provided singly, or a plurality of the integrated piping plates are provided, and

a corrosion-proof layer is formed on a surface of each of the grooves.

15. The integrated piping plate of claim 14, wherein

the corrosion-proof layer is also formed on the

joining surface of each of the plates.

16. The integrated piping plate of claim 14 or 15, wherein

the corrosion-proof layer is formed by coating with or lining with fluorocarbon resin.

17. The integrated piping plate of claim 14 or 15, wherein

the corrosion-proof layer is formed by application of an aluminum oxide film.

18. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

the integrated piping plate is provided singly, or a plurality of the integrated piping plates are provided,

each of the plates is welded at a position of a weld line surrounding a periphery of each of the grooves, and

each of the fluids flowing through the groove is sealed up at a site of the weld line.

19. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

a plurality of the integrated piping plates are provided, and

the plurality of the integrated piping plates are integrally fixed, with back surfaces of the plurality of the integrated piping plates being superposed, to constitute a three-dimensional module.

20. The integrated piping plate of claim 19, wherein

a heat insulator is interposed between the back surfaces of the plurality of the integrated piping plates to constitute a heat insulating three-dimensional module.

21. The integrated piping plate of claim 19, wherein

a separator is interposed between the back surfaces of the plurality of the integrated piping plates to constitute a heat insulating three-dimensional module.

22. The integrated piping plate of claim 21, wherein

a heat insulator is interposed between the separator and one or all of the back surfaces of the plurality of the integrated piping plates.

23. The integrated piping plate of claim 19, wherein

the instrument and the component constituting the apparatus are interposed, or the instrument is interposed, or the component is interposed, between the back surfaces of the plurality of the integrated piping plates.

24. The integrated piping plate of claim 23, wherein

a heat insulator is interposed between the back surfaces of the plurality of the integrated piping plates and the instrument and the component, or the instrument, or the component interposed between the back surfaces.

25. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

a plurality of the integrated piping plates are provided, and

the plurality of the integrated piping plates are disposed on a same rest, with heat insulating intervals being kept between each other.

26. The integrated piping plate of claim 25, wherein

a heat insulator is interposed between the plurality of the integrated piping plates and the rest.

27. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

the integrated piping plate is provided singly, or

a plurality of the integrated piping plates are provided, and

a heat shutoff groove is provided between a high temperature zone where the instrument and the component at a high temperature are disposed, or the instrument at a high temperature is disposed, or the component at a high temperature is disposed, and a low temperature zone where the instrument and the component at a low temperature are disposed, or the instrument at a low temperature is disposed, or the component at a low temperature is disposed.

28. The integrated piping plate of claim 27, wherein a heat insulator is filled into the heat shutoff groove.

29. The integrated piping plate of claim 27, wherein a refrigerant is flowed through the heat shutoff groove.

30. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

the integrated piping plate is provided singly, or a plurality of the integrated piping plates are provided, and

the instrument or component constituting the apparatus, a control instrument, or electrical wiring is incorporated into one of or all of the plates.

31. An integrated piping plate composed of two or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves, and wherein

the integrated piping plate is provided singly, or a plurality of the integrated piping plates are provided,

corrosion resistant piping is accommodated in some of or all of the grooves, and

a corrosive fluid is flowed through the corrosion resistant piping.

32. The integrated piping plate of claim 31, wherein

a flexible material is used as a material for the corrosion resistant piping.

33. The integrated piping plate of claim 31 or 32, wherein

each of end portions of the corrosion resistant piping is joined by use of a first joining member having a through-hole having a conical surfaced formed in an inner peripheral surface thereof, and a second joining member having a conical surface formed in an outer peripheral surface thereof, in such a manner that

an outer diameter side of the end portion is supported by the conical surface of the first joining member, and

an inner diameter side of the end portion is supported by the conical surface of the second joining member.

34. The integrated piping plate of claim 33, wherein

the first joining member is formed integrally with the plate.

35. The integrated piping plate of claim 33, wherein

the second joining member is formed integrally with the instrument and the component, or the instrument, or the

component.

36. The integrated piping plate of claim 33, wherein

the first joining member is formed integrally with the plate, and

the second joining member is formed integrally with the instrument and the component, or the instrument, or the component.

37. The integrated piping plate of claim 33, wherein

the first joining member is divided into a plurality of portions.

38. The integrated piping plate of claim 35, wherein

the first joining member is divided into a plurality of portions.

39. An integrated piping plate composed of three or more plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate,

grooves for serving as channels for fluids are formed in joining surfaces of the plates, and

the instrument and the component are connected, or the instrument is connected, or the component is connected,

by the grooves, and wherein

the integrated piping plate is provided singly, or a plurality of the integrated piping plates are provided.

40. The integrated piping plate of claim 39, wherein

the grooves in a plurality of stages formed in the joining surfaces of the respective plates are allocated to a high temperature zone and a low temperature zone.

41. An integrated piping plate comprising:

a first plate having grooves, which serve as channels for fluids, formed therein by press working; and

a second plate having an instrument and a component, or the instrument, or the component mounted thereon, and having communication holes formed therein, the communication holes communicating with the instrument and the component, or the instrument, or the component, and wherein

the first plate and the second plate are joined such that the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves and the communication holes.

42. An integrated piping plate comprising:

a first plate having grooves, which serve as channels for fluids, formed therein by precision casting; and

a second plate having an instrument and a component, or the instrument, or the component mounted thereon, and having communication holes formed therein, the communication holes communicating with the instrument and the component, or the instrument, or the component, and wherein

the first plate and the second plate are joined such that the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves and the communication holes.

43. A machining method for an integrated piping plate, comprising the steps of:

forming grooves, which serve as channels for fluids, in a first plate by press working;

mounting an instrument and a component, or the instrument, or the component on a second plate, and forming communication holes in the second plate, the communication holes communicating with the instrument and the component, or the instrument, or the component; and

joining the first plate and the second plate, which have been so machined, by welding such that the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves and the communication holes.

44. A machining method for an integrated piping plate,

comprising the steps of:

forming grooves, which serve as channels for fluids, in a first plate by precision casting;

mounting an instrument and a component, or the instrument, or the component on a second plate, and forming communication holes in the second plate, the communication holes communicating with the instrument and the component, or the instrument, or the component; and

joining the first plate and the second plate, which have been so machined, by welding such that the instrument and the component are connected, or the instrument is connected, or the component is connected, by the grooves and the communication holes.

45. The machining method of claim 43 or 44, further comprising:

joining the first plate and the second plate by friction stir welding.

46. The integrated piping plate of claim 41 or 42, wherein

a plurality of the first plates having the grooves, which serve as the channels for the fluids, machined therein are fixed so as to be opposed to each other, and

peripheries of the plates in contact with each other are sealed to constitute a three-dimensional configuration.

47. The integrated piping plate of claim 46, wherein

the plurality of the first plates having the grooves, which serve as the channels for the fluids, machined therein are brought into contact with each other so as to be opposed to each other, whereby a space portion is created, and

the space portion is used as a channel for flow of a refrigerant.